MEMOIRS OF LITERATURE.

MONDAY, *May* 26. 1712.

I.

A FURTHER ACCOUNT of Dr.* BERNARD's *Diſcourſe, ſhewing the Uſefulneſs of* PHILOSOPHY, *and how neceſſary it is in order to learn other Sciences.*

IT were an endleſs Thing (ſays Dr. *Bernard*) to mention all the Advantages ariſing from *Natural Philoſophy*. Thoſe are very much miſtaken, who maintain that it is of no Uſe but to Phyſicians. Are Phyſicians the only Men, who ought to conſider the Works of the Supreme Being? Is it not the Duty of all Chriſtians to know the Inviſible God from the Viſible Things of this World? The Author cannot ſufficiently wonder at the Folly of thoſe Men, who being wholly intent upon a curious Piece of Workmanſhip, or travelling into remote Countries to ſee the Ruins of ſome Ancient Monuments, ſeem to believe that the admirable Works of God do not deſerve their Attention. Is it not a ſurprising Thing, ſays he, that ſo many Perſons, diſtinguiſh'd by their Birth, and upon ſeveral other Accounts, ſhould be as much unacquainted with the Works of Nature, as the meaneſt Sort of People? They know not why the Sun riſes and ſets; why Days and Nights increaſe and decreaſe; why the Four Seaſons of the Year do conſtantly ſucceed one another, *&c.*

Among the many Advantages, ſays the Anthor, that accrue to Men from the Study of Philoſophy, this is doubtleſs one of the moſt conſiderable, that it frees them from a Thouſand popular Errors and panick Fears. A Philoſopher is not afraid of an Eclipſe of the Sun or the Moon: The Sight of a Comet does not terrify him: The Influences of the Stars do not diſturb his Mind; and he gives no Credit to the vain Predictions of Aſtrologers.

Hunc Solem, & Stellas, & decedentia certis
Tempora momentis, ſunt qui formidine nulla
Imbuti ſpectent †.

A Philoſopher (continues the Author) does not dread *Lycanthropes*, Phantoms, and Apparitions. The Study of Nature cures Men of Superſtition and Credulity, and enables them to overcome the Prejudices of Infancy and Education.

I add, that Philoſophy is ſo uſeful to Mankind, as to preſerve the Lives of many

* *The Firſt Extract may be ſeen in the laſt Sheet.*

† Horat. Epiſt. Lib. I. Ep. VI. v. 7. & ſeq.

innocent Perſons. If Judge *Boguet* had been a good Philoſopher, he would not have committed to the Flames * ſo many poor Wretches falſly accuſed of Sorcery and Witchcraft. Philoſophy (if it be attended with Honeſty) is alſo an Excellent Antidote againſt Perſecution on Account of Religion.

Dr. *Bernard* proceeds to ſhew, that Natural Philoſophy is of great Uſe for the Improvement of Agriculture, and the Preſervation of Health. Afterwards he takes notice of ſeveral uſeful Inventions, for which we are beholden to Philoſophy, ſuch as Teleſcopes, Microſcopes, *&c.* Philoſophy (ſays he) confirms what the Scripture tells us concerning the prodigious Number of Stars; whereas the Ancients knew only a Thouſand and Twenty Two. The Diſcovery of ſeveral New Planets is of ſo great a Moment, that if ever Geography (that uſeful, but very imperfect Science) attains to any Degree of Perfection, it muſt be aſcribed to thoſe New Planets. How great is the Uſefulneſs of Microſcopes! They diſcover to us daily a Thouſand new Objects, whereby it appears that our Earth, (tho like a Point, if compared with the whole Univerſe,) contains an infinite Number of other Worlds, each of which is a new Proof of the great Power and Wiſdom of the Creator of all Things.

IV. The Author proceeds to *Mathematicks*. He obſerves, among other Things, that the Province of *Holland* owes its Preſervation to this Part of Philoſophy. "*Quid proprie eſt* "*Hollandia tota?* (ſays he) *Terra aquis* "*erepta, quam tuetur Mechanica, immenſorum* "*Aggerum ope, qui ſunt Artis miraculum,* "*atque mare æſtuans ſuſtinent & repellunt.* "*Ejuſdem Mechanices operâ ſolum noſtrum hy-* "*berno tempore aquis obrutum, vere redeunte* "*felicitèr emergit*". Dr. *Bernard* takes notice of the Uſefulneſs of Navigation, and of ſome other Parts of Mathematicks; and then beſtows an *Encomium* upon a late Mathematician † of *Leyden*. Afterwards he mentions a Sphere, lodged in the College of *Leyden*, which repreſents the Motion of the Planets, *&c.* according to the Syſtem of *Copernicus*.

V. Our Author is very ſhort upon *Ethicks*, becauſe (ſays he) their Uſefulneſs is acknowledged by every body, and will be denied by none, but thoſe who believe that Virtue and Vice are indifferent Things; which is much the ſame thing with Atheiſm.

IN the Second Part of this Diſcourſe, Dr. *Bernard* undertakes to ſhew, that Philoſophy is of great uſe to learn other Sciences. He obſerves, in the firſt place, that Theology, Juriſprudence, and Phyſick, contain a great many Terms of Art, which cannot be underſtood without the Knowledge of Logick and Metaphyſicks. He adds, that Philoſophy affords many uſeful Precepts, whereby the Mind is enlightned, and its Capacity enlarged.

After theſe general Obſervations, the Author comes to Particulars. He maintains, that Natural Philoſophy is of great Uſe in Divinity. There are many things (ſays he) in the Holy Scripture, that cannot be underſtood or explained without it. He inſtances upon the Hiſtory of the Creation, the Deluge, the Miracles wrought by *Moſes* and the Prophets, and by Chriſt and his Apoſtles. Hence it is that ſome Divines *, unacquainted with Phyſicks, have committed very great Blunders. There are alſo ſeveral Paſſages in the Book of *Job*, and in the *Pſalms*, that require ſome Knowledge of Natural Philoſophy. The Author adds, that a Divine, well skill'd in that Science, will be better able to anſwer all the Objections of Hereticks and Atheiſtical Men.

I cannot forbear obſerving, that Philoſophy makes a great Figure in Mr. *Leibnitz*'s *Eſſay* † *upon the Goodneſs of God*, &c. That Science does not appear there like a mere *Servant-Maid* to Theology, but rather like a Noble Lady, who lends her a helping Hand, and ſupports her upon all Occaſions.

Dr. *Bernard* obſerves by the by, that Natural Philoſophy will furniſh a Preacher with a great many Metaphors, Similes, and

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* *See Pag.* 100. *and* 146. *of this Volume.*

† *Mr.* Volder.

* *The Author names* Serarius, *and quotes for his Blunders Mr.* Marck's *Diſſertations upon ſeveral Texts of the Scripture.*

† *I have given a large Account of that Book in the* Iſt *Volume of theſe* Memoirs.

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Compariſons, very proper to illuſtrate his Subject: Which brings into my Thoughts a Paſſage of Father *Merſenne*. That Learned Monk tells us, in one * of his Mathematical Books, that if any Preacher deſires to give a new Turn to an *Exordium*, and to adorn his Sermons with uncommon and beautiful Figures, Compariſons, and Parallels, he will find many things in that Volume, and in the foregoing, which they may apply to a Moral Subject: And then he adds, Quid enim, verbi cauſâ, facilius quam ex XXIX. *Lucis* The orematibus, aut XXX. *Umbræ* ſequentibus, quæ leguntur Optices Libro primo, multa cum ad fidem tum ad virtutes commendandas elicere? *(See what follows in that Author)* Such an Advice muſt needs appear very extraordinary to thoſe Preachers, who look upon Mathematicks as a dry and barren Study. If they will believe Father *Merſenne*, the Doctrine of *Lights* and *Shadows*, treated in a Geometrical way, will afford them many bright Thoughts, and a Thouſand Flouriſhes.

Our Author obſerves, that Mathematicks are alſo of great Uſe to underſtand the Geography and Chronology of the Bible. He adds, that the Weights and Meaſures mentioned in the Sacred Writings, and the Dimenſions of the Tabernacle, and of the Temple of *Solomon* and *Ezekiel*, can hardly be underſtood without the Help of Geometry. Some Excellent Geometricians (ſays Dr. *Bernard*) have done a great Service to Religion, by demonſtrating that *Noah*'s Ark could eaſily contain all Sorts of Animals.

The Revelation ſuppoſes the Law of Nature; and therefore Moral Philoſophy muſt needs be very uſeful to thoſe, who apply themſelves to Divinity. Ethicks are alſo highly neceſſary to a Civilian, becauſe the Civil Law is generally grounded upon the Law of Nature.

Juriſprudence may alſo reap no ſmall Advantage from Natural Philoſophy and Mathematicks; becauſe it affords many Queſtions, that cannot eaſily be reſolved without them.

There is ſo great an Affinity between Natural Philoſophy, and the Medical Art, that among ſome Nations thoſe who profeſs that Art, are call'd *Phyſicians*. What Dr. *Bernard* ſays, in order to ſhew that a Phyſician ought to be well skill'd in natural Philoſophy, is very judicious: But I ſhall not dwell upon it, becauſe I have lately diſcourſed upon that Subject, when I gave an Account of Dr. *Guyhon*'s *Eſſay upon Empiriciſm*.

Laſtly, The Author obſerves that Moral Philoſophy is alſo of great Uſe in Phyſick. For (ſays he) all Learned Phyſicians know, that the different Paſſions of the Soul occaſion many Alterations in the Body; and therefore whoever is able to moderate and cure thoſe Paſſions, ought to be look'd upon as a Man, who has made a great Progreſs in the Art of preſerving Health and curing Diſeaſes. But 'tis properly the Knowledge of Ethicks, that will qualify a Phyſician for this Part of the medical Art.

* *In the Preface to his* Univerſæ Geometriæ mixtæque Mathematicæ Synopſis. N. XIII. *Paris*, 1644. *in 4to.*

II.

A FURTHER ACCOUNT of Captain COOKE's *Voyage to the South-Sea, and round the World.*

I Left Captain *Cooke* at the Iſle of *Gorgona* in the firſt Extract * of this Book; and now I proceed to give a further Account of his Voyage.

He departed from that Iſland the 7th of *Auguſt*, 1709. and the 24th of the ſame Month came to an Anchor in the Bay of *Tacames*, a Village conſiſting only of Seven Houſes and a Church. They traded with the Inhabitants; and having left that Bay the 31ſt of *Auguſt*, they arrived on the 10th of *September*, at one of the *Galapagos*-Iſlands. From whence they came to the Iſlands *Tres Marias* on the 6th of *October*. The Author gives us a curious Deſcription of Sea and Land Tortoiſes, and of ſeveral Sorts of Fiſh.

October 25th they ſailed from the Iſlands *Tres Marias* for Cape St. *Lucas* and *Puerto Seguro* in *California*. *Porto Seguro* is inhabited by about two hundred *Indians*, who live in Huts made of Boughs of Trees and Reeds. They all go naked. Only the Women wear ſhort

* *Above, Pag.* 113.

Petticoats made of Silk-Graſs, or of Pelicans and Deers-Skins, reaching from their Waſte half way down their Thighs. Thoſe Indians *are very honeſt, and would not take the leaſt Thing without leave.* Our Author is of Opinion, that they might be brought to ſome Knowledge in the Chriſtian Religion; *but the* Spaniards *ſay not.*

The 22d of *December* the leſſer *Manila* Ship was taken in leſs than half an Hour. The great one was attempted in vain. "To "give the Enemy their due, *ſays Captain* "Cooke, they defended themſelves very "well. But we might as well have fought "a Caſtle of Fifty Guns, as this Ship, which "had about Forty, and near as many Braſs "*Pedreros*, each carrying as big a Shot as "our great Guns; and, as ſome of the Pri"ſoners told us, Six hundred Men, where"of a hundred and fifty were *Europeans*, ma"ny of them *Engliſh*, and *Iriſh*, ſome of "which had been formerly Pirates. The "Gunner was a *Genoeſe* born, had an Em"ployment at *Manila*, and thirty of the beſt "Men belonged to him, which made them "fight deſperately ——— The *French* "Captain (*of the leſſer* Manila *Ship*) inform"ed us, that they had Advice from *Made"ras*, two Months before they left *Manila*, "that two *Briſtol* Privateers were coming "in queſt of them into thoſe Seas, and "that Captain *Dampier* was Pilot; which "was the Reaſon they had ſo many *Europe"ans* Aboard the great Ship, moſt of whom "having their Wealth Aboard, they would "fight to the utmoſt ——— He added, "That the great Ship was prodigious ſtrong, "and that they have an excellent Sort of "Wood at *Manila* for building of Men of "War. *Gemelli* ſays this Sort of Wood is "hard and heavy as a Stone. The Planks "are ſo thick, and lined both within and "without, that they receive little Damage "by Cannon-Balls, (we obſerved that the "Plank of the Prize we took, did not ſplin"ter.) He farther ſays that a Ship, which "fought Fourteen Sail of *Dutch*, that came "to take *Cavite*, had nineteen Balls taken "out of her Side, ſticking there, as it were "in a Wall of ſoft Stone; and this becauſe "being run aground, ſhe was forced to "fight all the while on one Side, to the "great Aſtoniſhment of the Enemy. I may "be bold to ſay this Ship we fought was "as ſtrong, and had ſome hundreds of Shot "in her Hull. But enough of this, ſince it "was not our Fortune to take her.

The Proprietors of the Two Men of War, that ſailed into the South-Sea, need not be much concerned for the vain Attempt that was made upon the great *Manila* Ship, ſince they have got vaſt Riches, not only by the ſmall *Manila* Ship, but alſo by nineteen other Ships or Barks, either taken or ranſomed. An Account of the Plate, Jewels, Money, *&c.* that were brought Home, may be ſeen in the Book.

Captain *Cooke*, being willing to impart to the Publick all the Obſervations to be found in the *Spaniſh* Coaſting Pilots, gives us an Account of the Diſtances between all the Ports, Bays, Creeks, *&c.* from *Panama* along the Coaſt of *New Spain*, to the *Port of the Nativity*, ſeventy Leagues beyond *Acapulco*. He alſo mentions the Shoals, Winds, Currents, *&c.* Theſe Obſervations will be of great Uſe to thoſe, who ſhall ſail into the *South-Sea* hereafter.

In the next Place, our Author deſcribes *New Spain* from *Panama* to almoſt forty Degrees of Northern Latitude; its ſeveral Provinces and Towns; the Silver and Gold Mines; and the Commodities and Product of each Part. What Captain *Cooke* ſays of the Town of *Acapulco*, and its great Trade, will not be unacceptable to the Readers. He tells us, among other Things, that tho it is call'd a City, it hardly deſerves the Name of a Village, and that the Houſes are only made of Mud-Walls and thatch'd. But the Harbour is very ſafe, winding about, and being encloſed with Mountains. The Trade of this Place is ſo conſiderable, that the Curate gets fourteen Thouſand Pieces of Eight every Year, and a Black will hardly be ſatisfied with a Piece of Eight a Day.

The Author gives us a compendious Hiſtory of *New Spain* before it was conquered by the *Spaniards*; and then a ſhort Account of that Conqueſt. Laſtly, he mentions the ſeveral Expeditions along the *South-Sea* Coaſt of *North-America*, that were made by Sir *Francis Drake*, Sir *Thomas Candiſh*, *George Spilbergen*, Captain *Morgan*, Captain *Sharp*, Captain *Dampier*, and ſome others.

The laſt Chapter of this Book contains only a very general Account of the remaining Part of Captain *Cooke*'s Voyage, who arrived in the *Downs* the 2d of *October*, 1711. three Years and two Months after his Depar-

parture from *Briſtol*. He deſigns to publiſh a Second Volume, containing all the Particulars of his Voyage from *California* thro' the *Eaſt-Indies* into *England*; an exact Deſcription of many Places; ſeveral Draughts of conſiderable Harbours, *&c.* (taken from the *Spaniſh* Coaſting-Pilots,) and other Cuts, *which* (ſays the Author) *with ſeveral other Curioſities — will render the Work as uſeful, inſtructive, and diverting, as any Book of this Nature hitherto Extant. A Voyage round the World* is a Curioſity not to be met with among the Works of the Ancients, and will always prove very acceptable to the Publick.

III.

LETTRE de Mr. RUEL Medecin de Valence a un de ſes amis, expliquant la Palpitation du Coeur.

That is, *A LETTER of Dr.* RUEL *a Phyſician of* Valence *to one of his Friends, wherein he explains the Palpation of the Heart.*

SIR,

I Remember that when we made a Conſultation, about a Quarter of a Year ago, for a Man ſick of a violent Palpitation of the Heart, we eaſily agreed about the Remedies, that are proper to be uſed in ſuch a Diſeaſe; but we were of a different Opinion concerning the general Cauſe of it. You deſire in your laſt Letter to know how I think that ſuch a Diſeaſe is occaſioned. I ſhall the more willingly give you my Thoughts about that Diſtemper, becauſe I am indebted to the Illuſtrious M. *Chirac* of *Montpellier* for the firſt Notion of it.

All Phyſicians are now agreed that the Heart is a Muſcle; and therefore 'tis generally believed that its Motion, like that of other Muſcles, is occaſioned by the Influence of the Spirits, which are conveyed into it through ſome Branches of the Nerves of the Eighth Pair, eſpecially of the Intercoſtal. But I cannot approve that Opinion, tho it is entertained by ſo many Phyſicians, becauſe it appears to me contrary to Reaſon and Experience. And indeed we daily obſerve that in general Convulſions, or other convulſive Motions, without excepting Epilepſy, tho all the Animal Spirits are then in a violent Agitation, yet the Heart preſerves an uniform and regular Motion; which doubtleſs would not happen, if the Motion of that Part proceeded from the Animal Spirits: The Heart would neceſſarily be affected by ſuch a Diſorder in the Spirits; and one might judge of it by the Pulſe. On the contrary, in a violent Fever the Heart is in an extraordinary Agitation; which cannot proceed from an irregular Motion of the Spirits, ſince no other Part is agitated in the ſame manner.

The Truth of what I ſay will more plainly appear by the following Experiment. If all the Nerves of a Dog, that reach to the Heart, be cut off, (which may be done under the *Claviculæ*,) the Dog does not die immediately, but lives ſometimes a Day and a half after the Operation; and the Heart, far from ceaſing to move during that time, has a ſtronger and more frequent Motion, which proceeds from a Fever occaſion'd by the Inflammation of the Lungs.

I think I may aſcribe the Cauſe of the Motion, which I undertake to explain, not to the Animal Spirits, but to a *nitro-aerian* Matter diſperſed through the Maſs of the Blood, ſeparated by ſmall Glands that are in the Heart, and from thence conveyed into its Fibres, where being mixed with a ſmall Portion of the Blood poured in by the *Arteria coronaria*, it raiſes a Fermentation, which occaſions a Shooting or an exploſive Motion. There is nothing in the Palpitation of the Heart, but what may eaſily be accounted for, according to this Syſtem, tho it has puzzled hitherto the moſt expert Phyſicians.

To give a juſt Notion of that Palpitation, I ſhall define it *an irregular Motion of the Heart, whereby that Part riſes in its Syſtole, and ſtrikes more or leſs againſt the Fore-ribs, with a weak Pulſe.* In a State of Health, by the ſudden Contraction of the Fibers of the Heart, that Part grows round, and its two Ventricles, or Cavities, ſhrink in ſuch a Manner, that the Blood contain'd in them is ſqueezed, and driven out with ſome Violence, *viz.* That of the left Cavity into the

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Arteria aorta, and that of the Right into the *Arteria pulmonaris*, and not into the hollow and pulmonary Veins, becauſe of the Reſiſtance of their *Valvulæ*. Now becauſe the Heart, growing thicker and bigger by ſuch a Contraction, is not able to incline downwards, by reaſon of the Reſiſtance of the *Trachea Arteria*, and of the *Vertebræ* on which it lies; it inclines on that Side where it is leſs ſtraiten'd; and riſes forewards. If the Palpitation of the Heart was only an Augmentation of its natural Motion; having diſcovered the Principle of that Motion, we ſhould conſequently know the Cauſe of that Diſeaſe: But that Motion is quite different, becauſe the Heart riſes, and leaps, as it were, forewards againſt the Ribs, ſtriking them ſometimes with ſuch a Violence, as to cauſe a Fraction, and to be heard at ſome Diſtance; which obliges us to have recourſe to another Cauſe. Nor does the Palpitation of the Heart happen during its Diaſtole, but during its Syſtole; as it plainly appears by the ſhooting of that Part, and the beating of the Artery, which are felt atone and the ſame time: And becauſe that beating never happens but when the Artery receives ſome Blood, and the Artery receives it only when the Heart affords it by its Syſtole, 'tis certain the Palpitation happens during the Contraction of the Heart.

Having thus ſhewed how the natural Motion of the Heart is performed, we may eaſily conceive, that if the Blood happens to fly back with Impetuoſity into the Ventricles of that Part, when they contract themſelves, ſuch a Reſilition will neceſſarily make it riſe with greater Force againſt the Ribs; and conſequently whatever makes the Blood fly back into the Heart, muſt infallibly occaſion a Palpitation. The chief and the moſt general Cauſe of that Diſtemper is the Viſcoſity of the Blood; not that whereby the Principles of the Blood being drowned in the Seroſity, the branchy Parts ſtick together, when nothing keeps them at a Diſtance; but a Viſcoſity, which cloſely uniting the Principles of the Blood, enables them for that Reaſon to ferment upon the leaſt Agitation: For then the Blood having no free Paſſage into the Lungs, by Reaſon of its Viſcoſity, and dilating extraordinarily all the Veſſels through which it runs, happens to be by ſuch a Contention in a very great Fermentation, eſpecially at the end of the Conduits, where it is much more ſtraiten'd. The Blood in ſuch a Situation not having a free Courſe, its Column which happens to be in the *Arteria Pulmonaris*, flies back againſt the Coats of the Heart with a Force proportioned to the elaſtick Virtue of the Body that forces it back; that is, the more the Artery is conſtrained, the more ſtrongly it drives back the Blood towards the Heart. The following Experiment plainly proves the Truth of what I ſay. If any one ties the *Arteria Pulmonaris* of a Dog, the Palpitation will not fail to come upon him immediately; which can be aſcribed to no other Cauſe but to the Reflux of the Blood towards the Heart, by Reaſon of the Obſtacle it meets in its way, *viz* the Ligature. The *Scirrhus*, or the *Tuberculum*, that is formed ſometimes at the beginning of the *Aorta*, or of the *Arteria Pulmonaris*, ſtraitening their Cavity, occaſions a Palpitation for the ſame Reaſon as the Ligature. It cannot be objected that the *Valvulæ* hinder the Blood from running back into the Heart, for the Artery being full of Blood, and its Column being very much ſtraiten'd, and preſſed by the Blood which the Heart continually affords, the *Valvulæ* are then up, and ſtick to the Coats of the Artery.

A great deal of Water has been found ſometimes in the *Pericardium* of thoſe, who die of a Palpitation; which is the Reaſon why Dr. *Lower* and others believe the Dropſy of that Membrane might be the Cauſe of it. But that Dropſy can only produce a weak Pulſe by preventing the free Dilatation of the Heart, which ſinks in that Liquor; and that Water, far from putting the Heart into a violent Motion, muſts needs rather leſſen its Action. 'Tis not improbable that the Heart, by a ſtrong Contraction, ſqueezes out ſome watry Particles, that are kept in by the hard Membranes of the *Pericardium*: This may be the Reaſon of the Water gather'd in it; which might alſo proceed from the thick Blood of dropſical People.

Thoſe, who will have the Palpitation of the Heart to be a convulſive Motion occaſioned by an Irritation, that may be produced by the *Tuberculum* of the *Aorta*, and by Ulcers, and Worms contained in the *Pericardium*, have not been more ſucceſsful; for then it will be impoſſible to account for the

the Weakneſs of the Pulſe, which attends all Palpitations, ſince the Blood has a free Paſſage.

Others aſcribe the Cauſe of that Diſeaſe to a *Polypus* formed in the Cavities of the Heart; but it is not likely that ſuch a Concretion ſhould be made in its Ventricles during a Man's Life, whilſt the Blood has a free and ſtrong Circulation, and that no ſuch thing ſhould happen in the Veins; and conſequently that the Blood ſhould not loſe its Circular Motion: Beſides ſuch Concretions may eaſily be formed at the Point of Death, or ſoon after. But to return to my Hypotheſis.

There is nothing, whereby it may be more ſtrongly confirmed, than the various Symptoms that attend Palpitation. The Pulſe is weak, becauſe there is very little Blood conveyed from the right Ventricle into the Left; and conſequently the latter carrying but a little Quantity of that Liquor into the Arteries, their Beating muſt needs be very ſmall: Which is alſo the Reaſon of the great Weakneſs and fainting Fits, which happen in that Diſeaſe. The ſick Perſon has much ado to breath, becauſe the Blood not having a free Paſſage into the Lungs, the Veſicles which ought to receive the Air, are preſſed by the ſwelling of the Arteries that creep over them. A great Faintneſs attends that Diſeaſe, becauſe there being but little Blood conveyed into the Brain, there are not many Spirits filtrated in it. The Wearineſs of thoſe, who are ſick of a Palpitation, proceeds from this Cauſe, *viz.* That the viſcous Blood cannot ferment without being very much rarefied, and diſtending the Parts it goes through: Which is alſo the Reaſon of the Uneaſineſs that is felt all over the Body.

It ſeems to be a difficult thing to explain, how the Paſſions of the Soul, ſuch as Joy, Sadneſs, Love, Anger, and Fear, can occaſion a Palpitation of the Heart; but this Difficulty will eaſily be removed in my Syſtem. I need only ſuppoſe as a certain Truth, that there is a ſtrict Union between the Soul, not with the Blood, the Courſe whereof ſhe can neither increaſe nor ſtop, but with the Animal Spirits, which ſhe makes uſe of to move the Body, conveying them into ſuch Organs and Members as ſhe thinks fit. The Motion, which the Soul communicates to the Animal Spirits, diſpoſes and modifies the Blood in a manner ſuited to thoſe Paſſions of which it is the principal and the moſt uſeful Inſtrument. The Blood varies, and undergoes a Thouſand Alterations, according to the Character and Nature of the Paſſion it is ſubſervient to. How ſo? Becauſe the Spirits are conveyed into it with too great a Motion, and in too great a Quantity, or too ſlowly, and in a ſmall Quantity. The Blood cannot receive any Alteration but by ſuch means; and it muſt be altered whenever ſuch a Revolution happens in it. If that Revolution be occaſioned by too great a Quantity of Animal Spirits, as it happens in Anger, Love, and Joy, the Parts will be very much diſtended, and the Blood being in a greater Fermentation will have a quicker Motion to cauſe a Palpitation in thoſe, who have a Viſcous Blood; becauſe the Blood being then rarefied, diſtends the Parts it goes through, and has much ado to run in the Lungs, which occaſions a Palpitation. On the contrary, in Sadneſs and Fear, the Blood does very little ferment, becauſe the Animal Spirits are conveyed into it ſlowly, and in a ſmall Quantity, and likewiſe into the other Parts, whereby thoſe Parts being relaxed and unbent, are more proper to ſtop the Motion of the Blood, which, for want of a free Circulation, grows thick, and flying back from the Lungs into the Heart, produces a Palpitation.

It has been hitherto no eaſy thing to know, why that Diſeaſe is more dangerous to Men than to Women. The latter are beholden for it to the menſtrual Ferment peculiar to them, which preſerves the Liquidity of the Blood; whereas Men, wanting that Remedy, can hardly avoid ſinking under that Diſeaſe.

I need not enlarge upon ſome other irregular Motions of the Heart: The Motion of that Part is ſometimes ſlow, ſometimes violent, ſometimes very ſtrong, and at other times ſo weak as to be hardly ſenſible. It is ſlow, when the exploſive Matter gets ſlowly into the Subſtance of the Heart, and waſtes ſlowly being courſer than it uſes to be. It is quick and redoubles by a contrary Reaſon. It is violent, when that Matter makes a violent Exploſion. It is weak, when the Exploſion of that Matter is ſlight and ſmall. Sometimes the Motion of the Heart is a Trembling occaſioned by frequent Shakings,

kings. In such a Case, the Explosive Matter being unequally distributed into the Fibres of the Heart, occasions a stronger Contraction in some than in others, and consequently a Trembling. Or, it may be said, that the same Matter being very thin, gets easily into the Fibres of the Heart, and comes out with the same Facility; which occasions a small and frequent Pulse.

Lastly, there is another Sort of irregular Motion in the Heart, *viz.* an Intermittent one, when the Explosive Matter is not equally dispersed through the Mass of the Blood. Supposing, for Instance, that the Blood, which runs during Seven or Eight Beatings, has a just Quantity of that Explosive Matter, its beating will be regular; but if the next Blood is deprived of that Matter, or has too much of it, there will be an Intermission, or more frequent Beatings will succeed one another.

The Truth of my System may be confirmed by many other Observations.

I am, Sir, *&c.*

VALENCE,
July 1. 1711.

These Memoirs of Literature *would be very imperfect, if I should lay aside every thing, that relates to Physick; and therefore I hope none of my Readers will blame me for inserting now and then some Pieces concerning that Noble and Useful Science.*

ROME.

THE Treatise * concerning the Point of Honour, written by the Marquis *Scipio Maffei* of *Verona*, is very solid and well written. It consists of Three Books. In the First, the Author confutes the wrong Notion of Honour by several Reasons: In the Second he alledges many Authorities against it; and in the Third, he shews what Inconveniencies arise from thence. This Subject was never treated before with so much Strength of Argument. The Author distinguishes with great Ability the true Notion of Honour from the wrong Notions of it. Duelling was never practised by the politest Nations: The *Greeks* and the *Romans* never decided any private Quarrel by a single Combat. That barbarous Custom owes its Original to the wild Nations of the *North*, which invaded the *Roman* Empire; and their Kings endeavoured to suppress it by wise and severe Laws. The *Lombards* brought into this Country that horrid Practice, condemned by the Laws of God and Men.

* *I have mentioned it in the* 1st *Volume of these* Memoirs.

VENICE.

FAther *Martin Orelli*, a *Barnabite*, Professor of Divinity at *Macerata*, has printed here a Dissertation, wherein he maintains that Children ought not to be baptized in the Womb.

I have mentioned in the 1st *Volume of these* Memoirs, *pag.* 204. *a Book publish'd in* Italy *to prove the contrary Opinion.*

LONDON.

THE following Book is to be had at Mr. *Mortjeni's*, and Mr. *Le Cene's*, in the *Strand*.

Theatrum Fati, sive Notitia Scriptorum de Providentia, Fortuna, & Fato. Autore Petr. Frid. Arpe. Roterodami, Typis Fritsch & Bohm. 1712. in 8vo. pagg. 101.

This Book contains an Account of all the Authors, both Ancient and Modern, who have writ concerning Providence, Chance, and Fate. Those Authors are mentioned in a Chronological Order. Mr. *Arpe*, not contented to take notice of the several Editions of their Books, has thought fit to insert in a few Words the most remarkable Circumstances of their Lives.

LONDON: Printed by J. Roberts: And Sold by A. Baldwin, near the *Oxford-Arms* in *Warwick-Lane*. (Price 2 *d.*)